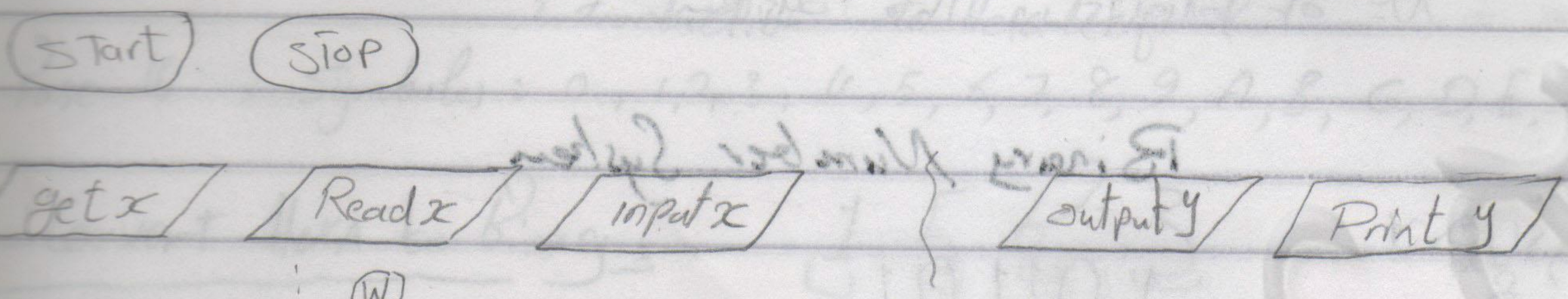
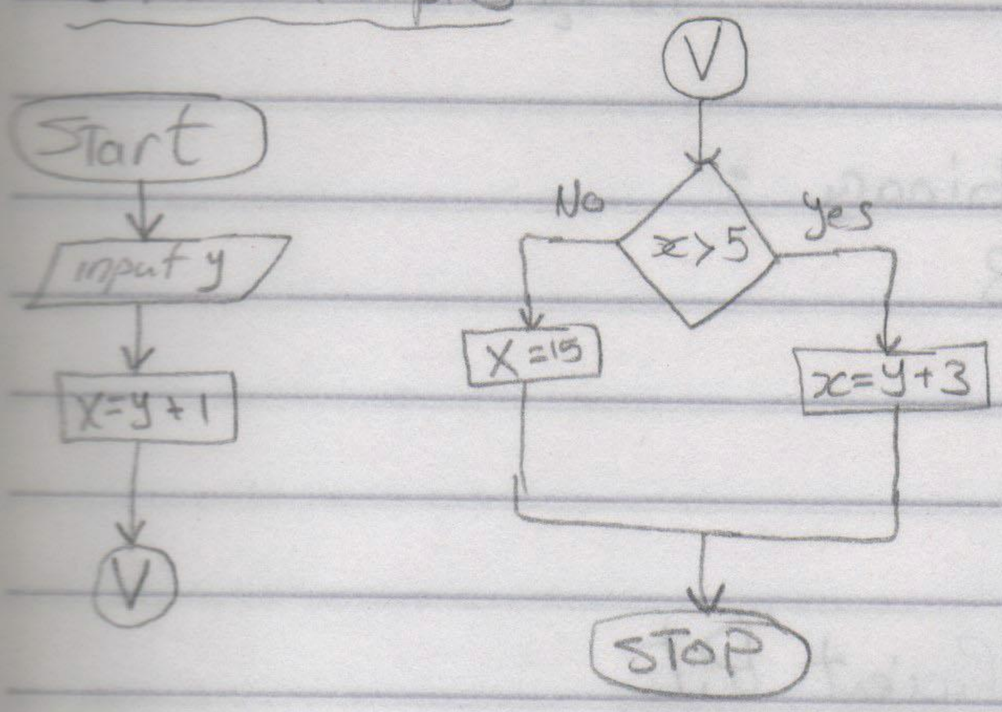
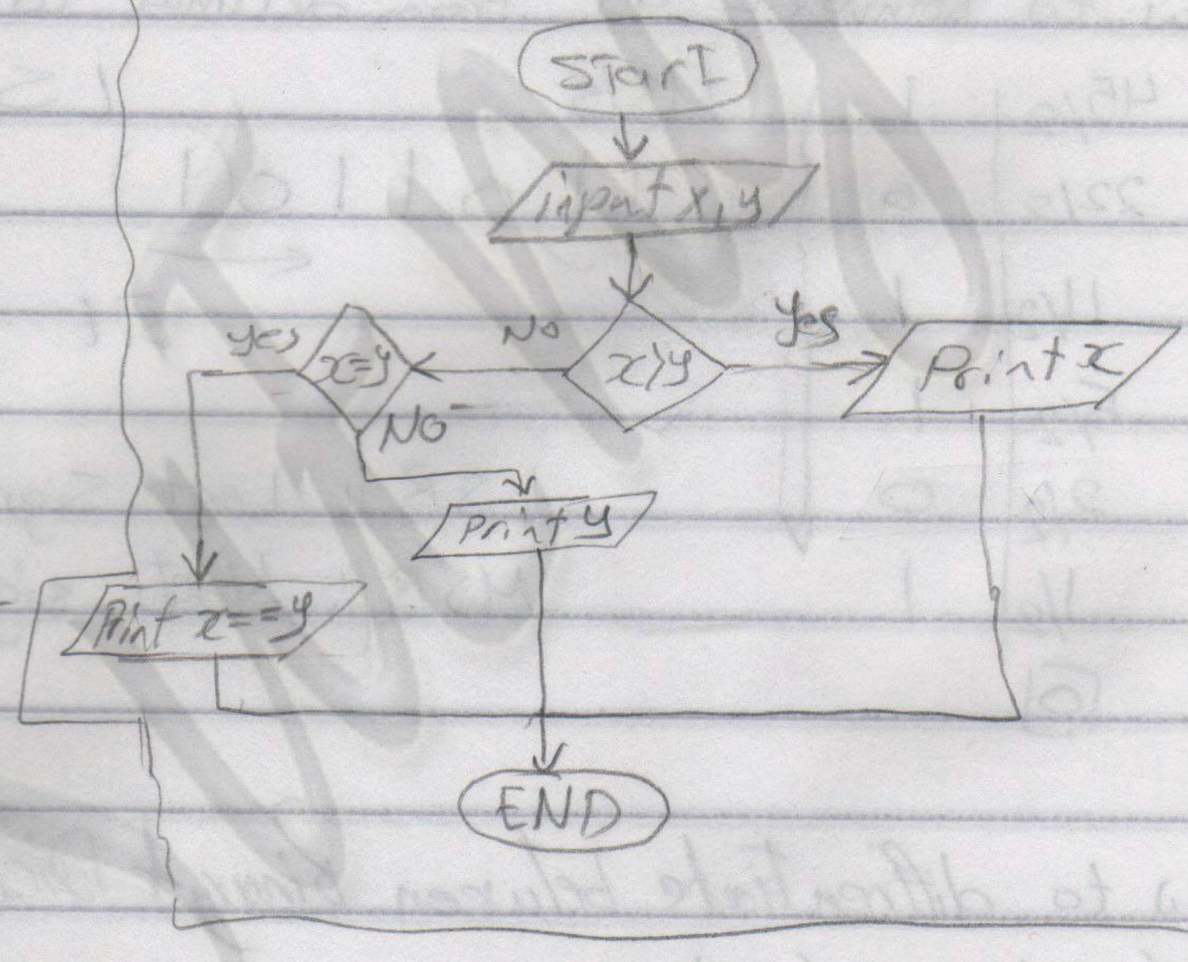
lecture 2



Some Examples



Draw a Flow chart of a Program to Print the greatest value of the 2 input (x, y)



مثلاً $x = x + 3$

- new value of x
- old value of x

عندما نريد ان نقول ان x يساوى y

$x == y$

بالطبع هذا فى مرحله كتابه الكود (سنعرفها معا فيما بعد) ولكن فى Flow chart لا تفرق حيث انه استرشادى فقط

Numbering System

Decimal Number System

Digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9,

$4\,3\,5\,8_{.}$

$4\times10^3 \quad 3\times10^2 \quad 5\times10^1 \quad 8\times10^0$ ← base of NS System

Base = Nº of digits in the System

Binary Number System

Digits : 0, 1

$1\,0\,1\,1\,0\,1$

$1\times2^0 + 0\times2^1 + 4\times2^2 + 8\times2^3 + 0\times2^4 + 32\times2^5$

$= 1+0+4+8+0+32 = 45$

How to convert "45" From decimal to binary :

45/2	1
22/2	0
11/2	1
5/2	1
2/2	0
1/2	1
[0]	

MSB $\quad 1\,0\,1\,1\,0\,1 \quad$ LSB

Bit

LSB : Least Significiant Bit

MSB : Most significiant Bit

* How to diffrentiate between Binary & Dicimel

$(10)_b = (10)_2$

$(10)_d = (10)_{10}$

$(3\,4\,2.5\,3)_d$

$3\times10^2 + 4\times10^1 + 2\times10^0 + 5\times10^{-1} + 3\times10^{-2}$

$(1\,0\,1\,1.0\,1)_b$

$1\times2^3 + 0\times2^2 + 1\times2^1 + 1\times2^0 + 0\times2^{-1} + 1\times2^{-2}$

Decimal	Binary	Hexadecimal
0	0000	0
1	0001	1
2	0010	2
3	0011	3
4	0100	4
5	0101	5
6	0110	6
7	0111	7
8	1000	8
9	1001	9
10	1010	A
11	1011	B
12	1100	C
13	1101	D
14	1110	E
15	1111	F